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CROSS-SECTORAL PRIORITY PROGRAMMES FOR COORDINATED ACTION BY THE UNITED NATIONS SYSTEM IN THE AREA OF WATER RESOURCES: CAPACITY-BUILDING FOR WATER RESOURCES MANAGEMENT

Report of the Secretary-General

SUMMARY

Building the capacity for integrated water-resources development and management was highlighted by the International Conference on Water and the Environment, held at Dublin from 26 to 31 January 1992, as an area for priority action.

The United Nations Conference on Environment and Development, held at Rio de Janeiro in June 1992, also contains many references to national capacity-building initiatives.

The present report reviews what is commonly meant by the term capacity-building and what might constitute the elements of a capacity-building strategy for integrated water resources development and management. It describes a method of proceeding from water sector assessments through the formulation of national water resources strategies to the elaboration of action plans as the best way in which natural capacity-building can be accelerated in developing countries.

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I. EVOLUTION OF THE CONCEPT OF CAPACITY-BUILDING

1. The present report deals with capacity-building components of integrated water resources development and management that have been highlighted in both past initiatives and recent expert and intergovernmental meetings with a view to drawing to the attention of the Committee on Natural Resources the urgent need to address the issue of the means of implementing the measures recommended. Broadly speaking, the concept of capacity-building is one that has evolved through time and refers to programmes designed to enhance national capacity to develop and manage water resources.

2. At the United Nations Water Conference which took place at Mar del Plata, Argentina, in 1977, national capacity-building was not addressed as such, although many of the components that are now included in the usual definition of the term were mentioned individually. For example, reference was made to strengthening institutions, remedying manpower shortages and providing appropriate and cost-effective technology.

3. In the specific regional recommendations for Africa of the Mar Del Plata Action Plan, institutional inadequacy was recognized to have been one of the major constraints on the effective development of water resources. 1/ In the Action Programme on Water for Agriculture, specific reference was made to building up of national advisory services; training, extension, research and strengthening of formal education; and establishment and improvement of institutions for management, administration and legislative support. 2/ Under the section on public information, education, training and research, it was stated that many countries shared problems in educating, training and retaining properly qualified and experienced personnel at all professional and subprofessional levels. 3/

4. By 1991, in the report of the Secretary-General (E/C.7/1991/8) on strategies and measures for the implementation of the Mar del Plata Action Plan in the 1990s, which was presented to the Committee on Natural Resources at its twelfth session, institutional weaknesses were again recognized to be a major factor retarding progress and, furthermore, the fragmentation of responsibilities for water resources development and management was also seen as a contributory factor. In paragraph 72 of that report, seven issues were identified as urgent and calling for priority within a national water strategy for the 1990s; with respect to one of those issues, it was declared that to enhance the capacity for the development and management of water-related programmes, greater efforts had to be made to strengthen institutions and develop human resources at all levels.

5. In the above-mentioned report, the view was expressed that increasing the financial resources to the sector was a necessary but not a sufficient condition for progress to be made. Many countries had lost the ability to absorb external funds owing to the near breakdown of public sector institutions during the 1980s.

6. It follows that creating an enabling environment for sustainable progress is clearly a much wider issue than one involving just institutional reform and training. It involves the whole debt problem, coping with structural adjustment, social equity, political change and a new awareness of the importance of environmental concerns.

7. At the United Nations Development Programme (UNDP) Symposium: A Strategy for Water Resources Capacity-Building, held at Delft, The Netherlands, from 3 to 5 June 1991, a first articulation of what could contribute to national capacity-building was attempted. To a certain extent, the term was expanded to include a number of additional elements such as privatization; on the other hand, it was narrowed to exclude macroeconomic externalities and concentrate on three basic elements: 4/

(a) An enabling environment with appropriate policy and legal frameworks;

(b) Institutional development and community participation;

(c) Human resources development.

8. By this time also, capacity-building had been readily accepted into the vocabulary of bodies such as the UNDP Governing Council through the concept indicating that an increased focus on human development would broaden the basis for national capacity-building. The Governing Council had requested that proposals be made by the Administrator for designing indicators to assess progress in the strengthening of national capacity for self-reliant development. 5/

9. The International Conference on Water and the Environment, held at Dublin from 26 to 31 January 1991, was part of the preparatory process for the United Nations Conference on Environment and Development, held at Rio de Janeiro in June 1992. The Dublin Conference called for major new approaches to the assessment, development and management of freshwater resources and, in the Dublin Statement, 6/ highlighted both creating the enabling environment and building the capacity for integrated water resources management.

10. In five of the six major working group sessions, the issue of capacity-building was addressed specifically and recommendations were incorporated in the Report of the Conference. This body of information provides some of the most up-to-date assessments of what needs to be done to accelerate progress towards sustainable water resources development and management. A minor change from the Delft Declaration was made, however: community participation was not always perceived as part of an institutional development strategy, and was thus treated as a separate (fourth) element.

11. The response from external support agencies to the United Nations Conference on Environment and Development concerning the provision of additional concessional financing for the implementation of its many recommendations fell short of perceived needs, and in general freshwater issues were eclipsed by the debate between North and South over environment

and development and by such global issues as ozone layer depletion, global warming, degradation of tropical forests and biodiversity. Chapter 18 of Agenda 21, 7/ concerning freshwater, contains what remains the consensus position on action to be taken with regard to the rational utilization and conservation of freshwater resources at national, regional and global levels. A description of the main activities is given in the report of the Secretary-General (E/C.7/1993/5), to the Committee on Natural Resources, on provisions of Agenda 21 relevant to the area of freshwater resources.

II. DEFINITION OF CAPACITY-BUILDING

12. At present, UNDP has launched a programme in support of Agenda 21 entitled Capacity 21. The objectives of that programme are to assist developing countries in formulating development goals, plans and programmes that lead to sustainable development in economic, social and environmental terms. In addition, the programme is designed to enhance the capacity of developing countries to continue to formulate and implement their own sustainable development policies.

13. The activities of this programme will be based on the relevant provisions of Agenda 21 in the field of capacity-building. However, by itself this broad description does not allow of an analytical approach to the formulation of a specific action programme for water resources.

14. A working definition of national capacity for self-reliant development for the purpose of measurement was set down earlier in the above-mentioned report on the role of UNDP in the 1990s. It was recognized therein that six interacting dimensions, embracing economic, social, institutional, technological, political and human resource components, produce the enabling environment for promoting the goals of production and efficiency. It could be argued that social equity and environmental sustainability would normally be added to those goals to reflect current world-wide opinion.

15. Each of those dimensions may be said to be relevant to water resources development and management with the proviso that, at the technical level, the political dimension should be limited pragmatically to the following elements: the establishment of a national water resources policy, the recognition of the importance of water resources development for economic and social progress and, in the case of international water bodies, the need to consult with other riparians on the use of those resources.

16. During the International Conference on Water and the Environment, the working group on integrated water resources development and management considered seven major components that could be correlated with the UNDP dimensions of capacity-building, as shown below.

Dublin Conference components	UNDP dimensions
Integrated planning	Political
Demand management	Economic
Institutional arrangements	Institutional
Legal frameworks	
Public participation	Social
Effective technologies	Technological
Human resources	

17. If it is accepted that planning can be broadly defined as the putting of policy into practice, there is a striking similarity between the Dublin Conference components and the UNDP dimensions. The need for training and human resources development was seen as a common thread throughout the discussion by the working group of the Dublin Conference components, and the chapter of the Conference Report dealing with integrated water resources development and management emphasizes this fact by containing a section on capacity-building 8/ divided in the following manner:

Information base and know-how

Human resources development

Public awareness

Institutional and legal arrangements

18. Planning, demand management, finance and investment were also regarded as important elements of implementation.

19. The other chapters of the Report deal variously with capacity-building and human resources development in ways reflecting the different approaches of the working groups to their subjects. However, the four essential elements listed above are reflected throughout the report.

20. In chapter 18 of Agenda 21, mention of capacity-building elements, as defined above, is scattered throughout the presentation of the seven programme areas under the heading either of activities or of means of implementation. This reflects the interrelationships between the basic structures of the Report of the Dublin Conference and those of chapter 18 of Agenda 21. Table 1 gives information on the specific paragraphs of Agenda 21 that contain references to capacity-building activities and table 2 presents the relevant paragraphs dealing with capacity-building objectives.

21. The concept of capacity-building has thus evolved and been enhanced over a range of global development and environmental initiatives. The degree to which a commonly accepted definition can be articulated is clearly limited but as far as water resource development and management are concerned, a working definition could be based on the Dublin approach. Through this approach, capacity-building would be defined in terms of four elements: (a) information development and management, (b) human resource development, (c) institutional and legal arrangements and (d) public awareness.

Table 1. Main capacity-building activities mentioned in chapter 18 of Agenda 21 (Relevant paragraph)

Broad group of proposed activities	Programme area A	Programme area B	Programme area C	Programme area D	Programme area E	Programme area F	Programme area G
Application and transfer of technology	18.12 (i) 18.14 18.20 (f)	18.25 (a) 18.30	18.42 18.43		18.61	18.79 18.81 (f)	
Strengthening of information management	18.12 (c) 18.14 18.20 (f)	18.25 (d) 18.27 (b)	18.40 (g) (ii) 18.44	18.50 (d) (i) 18.50 (d) (ii)		18.76 (h) (v)	
Promotion of public participation in water management	18.9 (c) 18.12 (n) 18.19	18.34 (d)		18.50 (b) (iii) 18.50 (c) (ii) 18.54	18.59 (c) (iii) 18.59 (f) (iv) 18.62	18.68 (d) 18.72	
Human resources development	18.19 18.20	18.31 18.32 18.33	18.38 (c) 18.45 18.46	18.50 (b) (iv) 18.53	18.59 (e) (iv) 18.62	18.79 18.80 18.81 (e)	18.89
Strengthening of institutional and legal mechanisms	18.12 (o) (ii) 18.21 18.22	18.25 (d) 18.27 (a) (ii) 18.34 (a)	18.40 (e) (i) 18.40 (e) (v) 18.47	18.55	18.59 (c) 18.59 (e) (i) 18.63	18.76 (a) (vi) 18.81	18.90
Strengthening of local water resources management	18.12 (m) 18.12 (o) (i) 18.22	18.34 (d)		18.50 (b) 18.50 (c) 18.54	18.59 (c) 18.59 (f) (i) 18.59 (f) (v)	18.76 (a) (iv) 18.76 (b) (iv) 18.76 (e)	
Strengthening of national water resources management	18.12 (a) 18.12 (o) (ii) 18.22	18.25 (b) 18.27 (a) (i) 18.27 (a) (iii)	18.40 (a) (iii) 18.42 18.43	18.50 (b) (i) 18.50 (c) (iii) 18.50 (c) (iv)	18.59 (e) (ii) 18.64	18.76 (a) (i) 18.76 (a) (vi) 18.76 (h) (i)	18.90
Strengthening of water basin resources management	18.9 18.10 18.12 (o) (iii)	18.27 (a) (iv)	18.36 18.40 (h) (i) 18.40 (h) (iii)				

Table 2. Main capacity-building objectives as set forth in chapter 18 of Agenda 21

Objective	Supporting citation
Integrated planning	"The widespread scarcity, gradual destruction and aggravated pollution of freshwater resources in many world regions, along with the progressive encroachment of incompatible activities, demand integrated water resources planning and management. Such integration must cover all types of interrelated freshwater bodies, including both surface water and groundwater, and duly consider water quantity and quality aspects. The multisectoral nature of water resources development in the context of socio-economic development must be recognized, as well as the multi-interest utilization of water resources for water-supply and sanitation, agriculture, industry, urban development, hydropower generation, inland fisheries, transportation, recreation, low and flat lands management and other activities" (para. 18.3) "Promote a dynamic, interactive, iterative and multisectoral approach to water resources management, including the identification and protection of potential sources of freshwater supply, that integrates technological, socio-economic, environmental and human health considerations" (para. 18.9 (a)) "To plan for the sustainable and rational utilization, protection, conservation and management of water resources based on community needs and priorities within the framework of national economic development policy" (para. 18.9 (b)) "Ensuring the assessment and forecasting of the quantity and quality of water resources, in order to estimate the total quantity of water resources available and their future supply potential, to determine their current quality status, to predict possible conflicts between supply and demand and to provide a scientific database for rational water resources utilization" (para. 18.24)

Table 2 (continued)

Objective	Supporting citation
	"Long-term development of global freshwater requires holistic management of resources and a recognition of the interconnectedness of the elements related to freshwater and freshwater quality" including "the intrinsic linkage between water resource development projects and their significant physical, chemical, biological, health and socio-economic repercussions". Similarly, "erosion, sedimentation, deforestation and desertification have led to increased land degradation, and the creation of reservoirs has, in some cases, resulted in adverse effects on ecosystems" (paras. 18.35 and 18.36)
	"Institutional reforms promoting an integrated approach and including changes in procedures, attitudes and behaviour" (para. 18.48 (b))
Demand management	"Rational water utilization schemes for the development of surface and underground water-supply sources and other potential sources have to be supported by concurrent water conservation and wastage minimization measures" (para. 18.3). "In developing and using water resources, priority has to be given to the satisfaction of basic needs and the safeguarding of ecosystems. Beyond these requirements, however, water users should be charged appropriately" (para. 18.8)
Institutional and legal arrangements	"To identify and strengthen or develop, as required, in particular in developing countries, the appropriate institutional, legal and financial mechanisms to ensure that water policy and its implementation are a catalyst for sustainable social progress and economic growth" (para. 18.9 (d)). "Institutional reforms promoting an integrated approach and including changes in procedures, attitudes and behaviour" (para. 18.48 (b))
Public participation and awareness	"To design, implement and evaluate projects and programmes that are both economically efficient and socially appropriate within clearly defined strategies, based on an approach of full public participation, including that of women, youth, indigenous people and local communities in water management policy-making and decision-making" (para. 18.9 (c))

Table 2 (continued)

Objective	Supporting citation
	"Community management of services, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes", "and the full participation of women at all levels in sector institutions" (para. 18.48 (b) and (c))
Effective technologies	"Innovative technologies, including the improvement of indigenous technologies, are needed to fully utilize limited water resources and to safeguard those resources against pollution" (para. 18.2). "To make available to all countries water resources assessment technology that is appropriate to their needs, irrespective of their level of development, including methods for the impact assessment of climate change on freshwaters" (para. 18.25 (a)). "Sound financial practices, achieved through better management of existing assets, and widespread use of appropriate technologies" (para. 18.48 (d))
Human resources development	"To have sufficient numbers of appropriately qualified and capable staff recruited and retained by water resources assessment agencies and provided with the training and retraining they will need to carry out their responsibilities successfully" (para. 18.25 (e))
Information base and know-how	"To have all countries, according to their financial means, allocate to water resources assessment financial resources in line with the economic and social needs for water resources data" (para. 18.25 (b))
	"To ensure that the assessment information is fully utilized in the development of water management policies" (para. 18.25 (c))

III. ELEMENTS OF A CAPACITY-BUILDING STRATEGY

22. Once this definition is accepted, the issue then becomes one of implementation, particularly in the context of the generally fragmented water sectors of many developing countries. The following sections of this report will attempt to develop a practical strategy for capacity-building given the severe constraints and many competing demands on financial resources. Proposed herein is a three-stage methodology that considers how water sector assessments allow of the articulation of development strategies and the formulation and implementation of action plans for capacity-building.

A. Water sector assessments

23. The starting-point of any capacity-building programme at the national level will clearly be a needs assessment. This should be carried out preferably as part of the formulation of a national economic development strategy but not in such a way as to delay progress while other economic and social sectors are being appraised. Instead what is intended is that the interrelationships between the water resources sector and other sectors should always be taken into account and that priorities should stem from stated government policy. In the case where, from an expert point of view, water resources have been dealt with inadequately in national development plans, the water sector assessment allows of an opportunity to raise issues dealing with the benefits of, and the consequences of not, taking action with government in an attempt to readjust priorities.

24. Central planning, and even national development planning, is becoming increasingly less common as greater use is being made of the private sector, as water is being regarded as an economic good and as the prevalence of market-place economics mitigates against the subsidizing of public sector institutions. The absence of a national development plan may make it more difficult to relate the objectives and goals of a water resources strategy to national policy. The high level of social environmental and economic benefits from water programmes, however, should make it possible to justify priority's being given to the water resources sector as a stand-alone exercise.

25. In cases like these and in particular in the countries in transition to a free-market economy, a needs assessment for capacity-building is of vital importance, particularly in the areas of institutional and legal arrangements to manage the transition, to establish government safeguards to protect freshwater resources and to introduce new, dynamic macroeconomic-based multiple-objective water planning techniques.

26. The sector assessments may range from very comprehensive and detailed needs assessments to much more focused and specific reviews of priority capacity-building components.

27. The concept of a rapid assessment, which was developed by the former Department of Technical Cooperation for Development of the United Nations Secretariat and incorporated into the main background documents for the UNDP Symposium at Delft, was intended to provide a mechanism whereby Governments could take stock of their current situation, engage in a policy dialogue, decide where they wanted to be in five years time and articulate the main elements of a programme to attain specific objectives in a limited time-period within available resources.

28. On the basis of wide field experience, the former Department of Technical Cooperation for Development accepted the fact that a more comprehensive approach, akin to the water resources master planning of the 1960s and 1970s, would take a number of years to complete and, in addition, rarely dealt adequately with the problems of priority and available financial resources. While the lengthy resource inventory part of the master planning exercise was worthwhile, it tended to detract from the strategic planning part which was of most use to decision-makers. Unless the master planning team was able to enter into a realistic dialogue with government decision-makers over priorities and resources, the articulation of potential programmes and projects stood in danger of becoming an empty exercise. To test the concept, and as part of its regular programme of technical cooperation, the former Department of Technical Cooperation for Development of the United Nations Secretariat carried out two water sector reviews in cooperation with UNDP in Morocco and Yemen. Both reviews were of limited duration and constituted rapid sector assessments rather than comprehensive water assessments.

B. Development strategies

29. Whatever approach to water resources sector assessments is adopted, the undertaking of such assessments may be regarded as constituting the diagnostic phase, during which the major issues and their capacity-building requirements can be identified. During this phase an essential dialogue must be established between and among the major actors in the sector. If a sector assessment is to be successful, it must draw upon as wide a range of experience, expertise and inside knowledge as possible. This is the only way to accelerate the consensus-building process by prior identification of the principal problems, potentials and constraints to development.

30. From the dialogue, which may be as extensive as a national conference or referendum (should circumstances dictate that the most democratic processes ought to be used to determine priorities), a strategy evolves to deal with the priority issues identified in keeping with government policy and the resources available.

31. The specific programme of action, once agreed upon, will determine the phasing of activities within the planning period. From a practical point of view, usually this cannot be longer than five years, although a longer-term perspective must be included because of the long lead-times required to complete irrigation, water-supply and multiple-purpose schemes. Decisions

have to be taken at this stage on whether the achievable targets are consistent with overall government policy objectives and with the expectations of the electorate. If not, an opportunity is provided to adjust budgetary allocations should an increase in the scope or pace of water resources development, and in the speed of implementation, be required.

32. The process is interactive, therefore, in the sense that it involves work both with policy makers and with stakeholders (the recipients of development). It is also dynamic in that it uses much shorter time-frames, involves more limited objectives and allows adjustments to be made.

33. The strategic options to be considered will usually focus on the various means of matching supply with demand, particularly in water-short situations. Large urban areas, with rapidly increasing populations and services stretched to their limit, often require the most urgent attention but, as with the drought-prone areas of Africa, neglect of water and food security in the rural areas can be disastrous. In many other countries, an increasing threat to water resources comes from pollution due to domestic, industrial or agricultural contamination. Water-quality problems are often extremely intractable and expensive to remedy.

34. Providing technical solutions to these issues may require a degree of lateral thinking with regard to seeking innovative approaches or new techniques such as macroeconomic-based multiple-objective water resources planning models. In all cases, the full participation of national professionals in developing the solutions offers a better chance not only of attaining sustainable results but also of leaving in place teams equipped with improved skills to face new problems as they arise.

35. There is probably no single area where capacity-building and skill enhancement are needed more than in the field of water resources strategy formulation. New techniques for demand management, resources assessment, modelling and information management make this work much easier than it was in the past, and also allow for more effective communications with decision makers. There is an urgent need, however, to train and equip water planning teams in developing countries in the practical application of those techniques to individual country situations.

36. Finally, strategic options may well include the strengthening of institutional and legal frameworks to provide a better basis for the integrated development and management of resources. This will involve the whole range of stakeholders, professional associations and public sector institutions. To ensure the fullest possible public participation in the water resources development and management process, new institutional mechanisms may well have to be put in place, incorporating the concept of managing water resources at the lowest appropriate level. The formal modification of the legal instruments to bring this about provides the last link in the chain of capacity-building, although in many circumstances positive action may well have to await enactment of those legal instruments.

C. Means of implementation

37. Once a consensus is obtained on the way forward towards improved water resources management and a strategy articulated to bring the necessary changes about, the programmed activities will be phased to fit the available human and financial resources, including external assistance. This constitutes the action plan, that is, a schedule of implementation determined by the financial flow and optimum management of human resources.

38. With regard to financial resources, although additional financing of the water resources sector is still subject to competing demands from other sectors, it may now be easier to obtain funds for capacity-building initiatives, given the current emphasis on national execution of technical cooperation programmes.

IV. A GLOBAL PROGRAMME FOR CAPACITY-BUILDING

39. Contrary to some expectations, the demand for technical cooperation has increased rather than diminished, but for very different types of assistance. As national capacities grow, countries (helped by gatherings like the International Conference on Water and the Environment, where the process of consensus-building encourages a wide exchange of views on current issues) are in a better position to define precisely what they need in terms of external assistance.

40. In countries where people trained in the required skills are in short supply, recourse is often had to using foreign nationals to carry out part of the development activities. This has been a common pattern over the past 40 years and has begun only recently to change significantly, as national capacities increase.

41. Criticism of external technical assistance is common for a variety of reasons. Often foreign nationals have insufficient knowledge of local conditions and make errors of judgement. Teams of expatriates do not always mix well with local counterparts and the opportunity to train by involvement is therefore lost. The interests of foreign-owned companies may not necessarily coincide with those of the host Governments so that discrete, time-limited projects will not always be able to achieve sustainable capacity-building. In addition the technology transferred from highly industrialized countries is not always the most appropriate for developing country situations and, most commonly, criticism is levelled at the generally high cost of external assistance.

42. On the other hand, if speed and efficiency of implementation are high priorities, there is often no alternative to supplementing local resources with outside assistance. Financing agencies set stringent conditions for loans and grants that will not be met where local capacities need reinforcing and appropriate skills are not available. They are often prepared to pay the higher price for external technical cooperation rather than commit themselves

to longer-term programmes that will involve expenditures in areas they consider to be the responsibility of recipient Governments. Since much of the financing may return to the donor countries in the way of payments for technical services or equipment, bilateral external assistance agencies do not necessarily see higher costs in the same way as developing countries. The latter feel that the same money can be made to go further if local skills and service are utilized. This does not take into account the conditions under which external aid is often made available by the donor nations and the guarantees of timely completion that are needed to satisfy external budgetary constraints.

43. From a pragmatic point of view, working compromises are usually found that, though satisfying neither of the opposing parties whose perspectives were sketched above, do ensure that the flow of external financing does not stop, although they inevitably fail to provide the optimum conditions for the growth of national capacities. Over the last 10 years, the pattern of technical cooperation has changed significantly, especially in relation to United Nations-sponsored activities. The emphasis has changed, moving from projects involving teams of international experts working in a manner almost independent of government institutions, to more interactive technology-transfer projects and programmes aimed at building national capacities and involving large training and fellowship components.

44. This meeting of minds and exchange of ideas constitutes the essence of modern technical cooperation, where external skills and wide experience are matched with a deep knowledge of national issues, local conditions and social, cultural or environmental constraints to development.

45. A good example of this approach is the UNDP-financed North China Water Management Project, which is being implemented in conjunction with the State Science and Technology Commission. (The Project is being executed by the Department of Economic and Social Development of the United Nations Secretariat.) The objective of the Project is to enhance the national capacity to manage water resources in an economically efficient and environmentally sustainable manner. The main vehicle for achieving that objective is training and technology sharing in the modern techniques of macroeconomic-based multiple-objective water resources planning, including the formulation of economic water planning models and their application to real problems in north China.

46. The external input to that Project comprises 16 individual consultancies in specific technical areas and two subcontracts for consultancy services in the field of industrial waste-water reuse and agricultural water-saving technologies. There are no resident expatriate personnel. Six regional centres have been equipped to undertake multiple-objective planning and modelling, including training by fellowships, study tours and on-the-job involvement of 95 professionals. The project is now well on the way to achieving its objectives, and it is enabling planning teams to tackle the problems of integrated water resources development and management in a water-scarce situation.

47. A number of other projects in support of national capacity-building have also been undertaken by the Department of Economic and Social Development and UNDP. The first aimed at assisting the Government of Morocco in identifying and analysing the needs for technical cooperation in the water and sanitation sectors. 9/ It allowed the Government to assess how far the developments in the sectors had improved the standard of living of the population and preserved the ecological balance.

48. The mission took place in January 1991 and lasted one month. It comprised seven external experts together with a number of national consultants who were to play a catalytic role in the exercise by providing in-depth knowledge of local conditions.

49. The 17 recommendations of the mission were, for the most part, capacity-building ones - in areas including institutional and legal measures, training, information management (including geographical information systems) transfer of technology and community participation - except for those dealing with specific pilot projects, feasibility studies and analyses that were required to accelerate development in the water and sanitation sections. All these recommendations were accepted by the Government of Morocco and are in the course of being implemented.

50. A second rapid assessment was carried out in Yemen during the month of July 1991 and was in response to an urgent need to prepare an overview of the water sector. The main objective was seen as being the identification of the challenges being faced by the newly unified territories, which were in a period of transition, and the review of options for courses of action to be undertaken in response to those challenges. It was recognized that the northern governorates were abstracting water from aquifers at a rate that was twice that of their replenishment, and that there existed real dangers of mismanaging very limited and fragile resources.

51. The mission recommended that immediate legal action be taken to contain the uncontrolled drilling operations and to protect the water resource from overexploitation, quality degradation and irreversible damage. The second group of recommendations addressed the need to provide an appropriate legal and institutional framework whereby the proper allocation of water to sustain economic growth and satisfy society's needs for the resource could be established. These were judged to be the priority issues that would condition any future opportunity of attaining sustainable development in the sector. The dialogue with Government on these issues acted as a galvanizing catalyst to action that is still continuing at present.

52. A capacity-building exercise, albeit a very different one, is also being initiated in southern Africa in response to the recent drought. That exercise is being coordinated by the Department of Economic and Social Development of the United Nations Secretariat, UNDP and the United Nations Environment Programme (UNEP), in close cooperation with the Southern African Development Community (SADC).

53. This region, comprising 11 countries, contains a number of major international river basins (for example, the Zambezi, the Limpopo, the Orange, the Kavango and the Cunene) the management of which will require cooperation among riparians. Long-term water and food security in the face of increasing demands and recurrent drought will therefore require regional cooperation to optimize utilization of shared resources and safeguard the future.

54. In this case, the capacity-building exercise is designed to reinforce existing institutions both in their ability to carry out integrated planning and management of water resources and in the adoption of compatible economic water management procedures, including those in the area of information management, to enhance regional cooperation.

55. In all participating countries, the starting-point for the process will be the rapid assessment of country situations. It is also proposed to strengthen the existing SADC Water Sector Coordinating Unit in support of regional capacity-building. The overall objective, however, remains the enhancement of national planning capacities as a fundamental step in supporting both national water development plans and international negotiations for joint use of shared water resources.

56. These three examples illustrate the way in which different national or regional situations dictate priorities and hence the focus of the rapid sector assessment. While it is essential for any approach to be as thorough as possible in addressing issues, the essence of this approach, it will be noted, involves the developing of a strategic framework in the short term to address agreed priorities. It assumes from the outset that funds will be limited and that this factor will force the making of choices among competing demands on resources. There is no reason why more detailed analyses cannot be carried out following the rapid assessment, including full-scale master plans, if these are deemed necessary.

57. Another approach is contained in the World Bank's proposal for a Water Resources Assistance Programme, to be financed by UNDP and executed in association with the United Nations. This is related to the development of a comprehensive water resources management policy for the World Bank and emphasizes the importance of a comprehensive water assessment as a first step in the assistance programme.

58. It is envisaged that the first phase of a comprehensive water assessment would last from three to six months, during which time an inventory of water resources, supply and demand on the resources, and physical and institutional infrastructure would be made. Key issues facing the sector could also be identified.

59. The second phase could concentrate on the development and evaluation of alternative strategies and is envisaged to last about six months depending on the size and complexity of the individual country. The first of these exercises is to be carried out in Tunisia, beginning in early 1993, in conjunction with UNDP and the Department of Economic and Social Development of the United Nations Secretariat.

60. A number of countries in partnership with external agencies have attempted a compromise between full-scale master planning and comprehensive water assessments by limiting the planned action of a master plan to a small number of bankable projects. While this approach has merit in launching projects into which capacity-building activities can be incorporated, the criteria for determining the feasibility and financing of such projects are usually based on their economic internal rates of return. There are obvious limits to the scope and depth of any capacity-building elements because the benefits of these elements will be difficult to quantify and hence to include in the economic analysis of the selected projects.

61. It is argued that in the case of such projects, even a limited amount of training - institutional and legal reform and technology transfer, for example - is better than nothing, and this might be the case if there is no follow-up action after the preparation of a conventional master plan. On the other hand, participants at the Delft Symposium and the Dublin Conference recognized that a project-by-project approach could not ensure continuity and would ultimately lead to a situation involving non-sustainable capacity-building.

62. In adopting a global interregional capacity-building programme as a major area of concentration, there exists an obvious danger of spreading resources too thin even if the concept is narrowed down to the four components given above. At the same time, countries are very different in their development philosophies, priorities and level of achievement.

63. As a first premise, it is therefore suggested that the least developed countries, which usually stand in the greatest need of enhancing natural capacities, should be priority targets for support. However, since the willingness to address issues of capacity-building is the most important qualifying criterion for countries requesting assistance in this field, it is recognized that no country will be excluded from consideration on the grounds that it is not a least developed country although the implication from a global point of view of assigning priority to such countries is that Africa with its 30 least developed countries out of a total of 47 will be a priority region with respect to assistance.

64. Second, training components of projects and programmes must be seen not as an unavoidable inconvenience but as a fundamental part of the development process. In order to achieve this, the financial mechanisms for technical cooperation at the bilateral and multilateral levels need to be examined, in particular the balance between grant aid and loans. Given the long-term nature of capacity-building, it could be recommended that bilateral funding make an increased allocation to capacity-building programmes or at least that project-specific loans from development banks and multilateral lending agencies have a capacity-building component that extends beyond the life of the project. These recommendations should be supported even more vigorously given the general move away from a project to a programme approach.

65. Assistance from developed countries must be programmed over a longer time-period than the normal project cycle in order to achieve sustainability. The application of the concept of the twinning of institutions has been found to be extremely effective in capacity-building since it ensures continuity and can embrace a wide range of skills and technologies. Successful twinning exercises have been carried out between parastatal or government institutions in developing countries and privatized river authorities, notably from the United Kingdom of Great Britain and Northern Ireland and France. This has also been seen as a useful first step in building national capacities to privatize public utilities.

66. Because of existing regional differences and the need to focus Governments' attention on the importance of capacity-building in the water resources sector, the greater involvement of the regional commissions may be considered to be an advantage in terms of creating a dialogue with Governments on policy implications.

V. CONCLUSIONS AND RECOMMENDATIONS

67. The optimum use of technical cooperation programmes, such as those described in the case-studies cited above, may be a major factor in accelerating national capacity-building. Its practical expression should logically begin with the building up of national strategic planning capabilities, because only in this way will feasible action plans that have a good chance of attracting financial support be put forward. (This is not to say that elements of the action plan should not concentrate on strengthening implementation capabilities, creating the opportunities for public participation, and involving community-based institutions, non-governmental organizations and women's groups.)

68. The use of the diagnosis-strategy-action plan methodology will help Governments in assigning priorities for action in a rational manner, based on perceived needs and available resources. The Committee on Natural Resources may therefore wish to consider recommending, to Governments that have not already taken such a step, the formulation of action programmes to implement the integrated development and management of their water resources at the earliest opportunity giving particular attention to capacity-building activities.

69. The Committee on National Resources may also wish to draw attention to the importance of capacity-building, carried out as either a separate programme or a component of all technical cooperation programmes, and in that case, the Committee may wish to consider how priority may be assigned to capacity-building with respect to the allocation of national, regional and global financial resources.

Notes

1/ See Report of the United Nations Water Conference, Mar del Plata, 14-25 March 1977 (United Nations publication, Sales No. E.77.II.A.12), chap. I, annex, para. 1.

2/ See ibid., chap. I, resolution III, containing the Action Programme on Water for Agriculture, para. 5 (d), (e) and (f).

3/ See ibid., chap. I, sect. F, para. 73.

4/ See A Strategy for Water Sector Capacity Building, International Institute for Hydraulic and Environmental Engineering (IHE) Report Series 24, G. J. Alaerts, T. L. Blair and F. J. A. Hartvelt, eds. (Delft, The Netherlands, and New York, IHE/UNDP, 1991), Delft Declaration, annex, para. 5.

5/ See document DP/1990/18 on the role of UNDP in the 1990s: indicators for national capacity-building.

6/ See International Conference on Water and the Environment: Development issues for the 21st century, 26-31 January 1992, Dublin, Ireland. The Dublin Statement and Report of the Conference (Geneva, World Meteorological Organization, 1992).

7/ See Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (A/CONF.151/26/Rev.1).

8/ See International Conference on Water and the Environment: Development issues for the 21st century, 26-31 January 1992, Dublin, Ireland. The Dublin Statement and Report of the Conference (Geneva, World Meteorological Organization, 1992), chap. 2, paras. 2.7-2.15.

9/ See PNUD (Programme des Nations Unies pour le Développment), Analyse des besoins en coopération technique du secteur de l'eau et de l'assainissement au Royaume du Maroc: Rapport de la mission (Rabat-Maroc, janvier 1991).